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Good morning, Mr. Chairman and Members of the Subcommittee, thank you for the opportunity to speak with you today and share some insights on the security of the United States' transit systems, and specifically the importance of emergency preparedness and response training for transit employees and emergency responders.

My name is Christopher Kozub, and I am the Associate Director for Workplace Safety and Security at the National Transit Institute (NTI) at Rutgers, The State University of New Jersey. Although the recent, tragic events in London have once again brought the issue of transit system security to the forefront of media headlines and American minds, NTI has served the safety and security training needs of transit agencies and their employees for a number of years. Under the direction of the Federal Transit Administration (FTA) and in partnership with transit system management and labor organizations, NTI has been steadfastly focused on developing and delivering security training materials since the attacks of September 11th. It is NTI's overall mission to provide training and education in support of public transportation and quality of life in the United States. When this quality of life is threatened, we must reevaluate our actions and precautions, not only in awareness and prevention measures, but in our reactions and response to terrorist threats and incidents.

Collectively, the nation's transit systems are responsible for providing a reliable, efficient, and rapid commute for 14 million passengers daily. Their biggest responsibility and priority however, must always be the safety and security of those passengers and the employees who are delivering this service. When transit's infrastructure and operations are threatened or attacked, as it was twice in London this month, the desired effect to disrupt commerce, instill fear, and bring a bustling, thriving region to a grinding halt, is achieved. Unfortunately, the London incidents are merely the latest in a series of attacks on the world's transit systems.

- On March 20, 1995, Tokyo subway riders, at the height of the morning rush hour, were targeted in a deadly nerve gas attack by a doomsday cult, killing a dozen people, including two frontline employees and injuring approximately 5,000 more. The first indication that anything was wrong was when passengers began to experience watering eyes and difficulty breathing – classic symptoms of exposure to the tasteless, colorless, and odorless Sarin agent that was used in the attack. Unfortunately, the two employees

were killed when trying to remove the agent dispersal device. Neither one had received any training related to security awareness or incident response.

- On October 17, 1995, eight people died and more than 200 were injured when a terrorist detonated a bomb on the Paris Metro. In the investigation police found the remains of a six pound cooking gas canister that had been filled with explosives and screws – to serve as shrapnel.

- On February 6, 2004, an explosion in a Moscow Metro rail car killed 39 people and wounded 129 others, again during the morning rush hour. As with the most recent London bombings, the explosive device was thought to have been stored in a backpack or briefcase.

- On March 11, 2004, a coordinated series of ten explosions aboard four packed commuter trains in Madrid killed 191 people and injured over 1,500 others. The attacks were carried out by terrorists boarding the system at outlying stations, deploying their device laden packages on the trains, and exiting before the predetermined time of detonation. This incident clearly illustrated that in order to secure a rail or transit system, security measures must be implemented and maintained system-wide.

- On July 7, 2005, the London Transit system was attacked by four suicide bombers. Three of the devices were detonated on separate trains deep in the tubes of London's Underground. The fourth was detonated over 30 minutes later on a double-decker bus. In total 56 people, including the four attackers, were killed and 700 others were injured.

- Two weeks later on July 21, 2005, another four attacks were attempted on London's transit system in which only one person was injured, but the system, and to a great extent London, were crippled for a considerable amount of time.

This list obviously, does not include all of the hundreds of lesser bombings and attacks that have occurred against rail and bus transit systems throughout the world over the past ten years. While the following table shows the total number of surface transportation terrorist attacks for each year since 1995, including injuries and fatalities, it should be noted that the ratio of injuries and fatalities per incident is significantly higher for transportation targets than most other terrorist targets combined. This fact continues to make surface transportation systems, particularly transit operations, attractive targets for terrorist attacks.

Terrorist attacks against surface transportation targets:

	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	Total
Incidents	12	10	7	106	49	73	104	159	64	96	680
Injuries	5,313	256	156	553	231	355	695	846	580	1041	10,026
Fatalities	67	69	21	232	35	36	328	200	168	416	1,572

Source: MIPT Terrorism Knowledge Base

THE IMPORTANCE OF HUMAN CAPITAL

Ironically, in an industry such as transit, which is seemingly burgeoning with technological ideas and investments, it is interesting to see how many reports, interviews, and testimonies regarding the referenced events, validate the limitations of employing currently-available security technology within the transit operating environment. Additionally, post-incident information often reveals the critical importance of the frontline employee in minimizing the impact of an incident. This was clearly proven on September 11th when PATH system employees quickly loaded and dispatched trains from the World Trade Center station.

While we should not abandon research and deployment of new technologies, we need to recognize what has been proven to work here and now: employee training.

- Encouraging passengers to report suspicious activity often relies on employees receiving and forwarding that information. This requires employees to be trained on how to assess this information and pass it forward through proper channels.

- Preventing attacks relies on an alert and diligent workforce that can identify and react properly to suspicious activity and threats.

- The outcome of an effective emergency response is often contingent on what frontline employees do or don't do in the first few minutes of an incident.

The FTA has clearly recognized this and has directed NTI and other resources to develop a number of courses and materials to better prepare employees for these responsibilities. This training focuses on improving their ability to observe, recognize, and report suspicious objects and activities, and being more cognizant of pre-attack activities. Heightened awareness of their on-the-job surroundings, and a familiarity with the warning signs of potential threats, will lead to increased security and safety on our nation's transit systems

These materials have been developed through partnerships that bring transit system management, safety and security experts, organized labor, trade associations, and the FTA together to ensure that everyone's concerns and issues are being addressed. The FTA and NTI have also considered the various methods utilized by each transit system to train their employees and have produced a range of materials in a variety of formats. This approach has lead to the development of materials that can be used for instructor-lead training and interactive, computer-based training. These efforts are complimented by the production and distribution of videos and reference materials.

A number of transit systems have also recognized this and are utilizing NTI's materials to provide employee training. Since September 11, 2001, almost 73,000 transit employees at more than 530 transit agencies have been trained. This includes 51,000 employees who work for the top 30 systems which are located in the most densely populated regions of the country. Agencies such as Massachusetts Bay Transportation Authority (MBTA), Northeast Illinois Regional Commuter Railroad Corporation (METRA), San Francisco Municipal Railway, Denver Regional Transit District and New Jersey Transit have made comprehensive efforts to train the majority of their frontline employees.

Unfortunately the number 73,000 only represents approximately twenty percent of the transit industry's total workforce. Consequently, a large number of frontline transit employees in this country still lack proper training and preparedness for preventing and/or responding to incidents. This is largely due, according to many transit systems, to a lack of funding. While the materials from NTI are provided to transit agencies free-of-charge, and a portion of the training is actually conducted by NTI instructors, also free-of charge, systems still need to pay employees to keep buses and trains moving while other employees participate in training. Unlike other sectors, "in-service training" in transit and other transportation modes is incongruent with keeping service on the street.

This training must also be conducted on an ongoing cycle. An employee can not be expected to effectively retain and apply information and skills which they are only exposed to once. There must be a continuing process of frequent informational reminders and periodic refresher training to keep the material at the forefront of their thinking and thus carried out in their actions.

As such, while funding security technology research and deployment such as smart devices, chemical sensors, and cameras is important, a much greater emphasis and value needs to be placed on employee training and preparedness in order to effectively secure and safeguard the lives of transit passengers and employees.

NTI'S CONTINUING AND DIVERSIFIED ROLE IN SECURITY TRAINING

While continuing to focus on our primary commitment to the FTA and the safety and security of transit industry employees, NTI has enhanced these efforts by collaborating on additional projects that have built upon these experiences and effectively served a broader range of transportation employees.

- With an average of 60% of the nation's daily transit trips occurring on buses, NTI, under the direction of the FTA, developed a modified version of the system security course to address Department of Transportation (DOT) personnel. Currently 1,744 DOT employees from 15 different agencies have received this training. These deliveries, as well as the development of an interactive CD-ROM version of the DOT course, have been funded by the National Cooperative Highway Research Program of the Transportation Research Board, within the National Academy of Sciences. Additionally, 9,800; 7,435; 1,450; and 450 employees have been trained internally by the Texas, Washington State, New Jersey

and North Carolina DOTs, respectively.

- Under heightened security concerns, the FTA and NTI assisted the Washington State Ferry (WSF) system in an effort to produce a comprehensive system security training program that included instructor-lead course material, a video, and an employee pocket guide. WSF then used these materials to train all of their vessel and terminal employees. Based on this project, NTI developed a training course for the rest of the ferry operations in the country. In compliance with the Maritime Transportation Security Act of 2002 (MTSA) and specific portions of United States Coast Guard regulations currently in force for maritime security of vessels and maritime security of facilities, NTI has, to date, provided training in system security awareness to approximately 1,000 passenger vessel employees.

- Further adaptation of the NTI system security course occurred after being approached by Amtrak. With a need to train their 20,000 employees across the country in security awareness, Amtrak wisely decided to adopt the same program that was being used by a number of commuter rail systems throughout the country. With Amtrak and many of the commuter rail systems sharing much of the same infrastructure with freight railroads, the project grew to include the Federal Railroad Administration (FRA), the Association of American Railroads, and the American Short Line and Regional Railroad Association. The Transportation Security Administration (TSA) has funded this effort to produce a computer-based, security awareness training program that will provide a consistent baseline of security training for all freight and passenger rail employees throughout the country. The passenger component of this project was completed in January 2005 and Amtrak has used the material to train approximately 10,000 of their employees to date. The freight component is under final development and the completed project will be released in the near future.

These activities clearly illustrate that through prudent leadership by agencies such as the FTA and the Department of Homeland Security (DHS), the Federal Government can produce quality and very cost-effective programs that will have near-term, positive effects on the safety and security of many modes of surface transportation. This is of particular significance given the continuing move toward inter-modal networks.

Currently, NTI, the FTA and agencies within DHS are working on several new programs to continue this process:

- A course is being developed to better train and prepare transit system operations control center personnel in assessing and responding to reports of chemical, biological, and explosive attacks within rail system tunnels. The course will compliment the existing FTA guidance document *"Guidelines for Managing Suspected Chemical and Biological Agent Incidents in Rail Tunnel Systems."* Argonne National Labs, a leading source of expertise on chemical and biological terrorism and author of the FTA guidance document, is working with NTI to develop and deliver the new course. Initial deliveries are scheduled to begin in August 2005.

- The FTA and NTI are also in the process of developing a series of training programs for transit employees on Incident/Emergency Management. These courses and corresponding materials will incorporate the new, nationally adopted NIMS (National Incident Management System) model so that transit employees, along with their colleagues in emergency response, will be able to effectively work together during an incident. The first of these courses will focus on the concept of passenger management during an incident. This has been identified as a challenge and an issue at every transit system attack and accident. Employees who are responsible for the safety and security of passengers during an incident need a clear understanding of the various behavioral characteristics that they'll confront in an emergency so that they can most effectively direct them to safety.

- The FTA, TSA, and the Office of Domestic Preparedness (ODP) within the Department of Homeland Security have partnered with NTI to revise and deliver the FTA "Connecting Communities" forums. These forums were originally delivered in 17 cities to bring together transit systems and emergency responders. The revised program will incorporate the NIMS concept and will focus on a more substantive and facilitated discussion between the participants. The goal of these 12 workshops is to strengthen relationships between transit representatives and emergency response officers and develop an outline for a transit incident response plan. Among other aspects, this plan will include resource identification and availability, localized model response plans, and a proposed schedule for inter-agency, table-top and functional training exercises.

PREPARING EMERGENCY RESPONDERS FOR TRANSIT INCIDENTS

While programs such as the "Connecting Communities" forums are important steps in improving interagency planning and response, they are merely the beginning of a long-overdue effort within transit and more so, the emergency response sector, to improve training and preparedness.

Some agencies such as those represented by my distinguished colleagues have made great strides in developing programs with their local emergency services. Washington Area Metropolitan Transit Administration (WMATA) has created a life-safety center and training program to better prepare local, state and federal responders for incidents within the WMATA system. The Los Angeles County Metropolitan Transit Administration (LACMTA) has worked with the LA County Sheriff's office to train 200 of their officers in transit security and incident management concepts. A great many other agencies have and continue to conduct training drills to test the interoperability of their internal and external responders, resources, and procedures.

Quite often, response to a passenger rail or rail transit incident has been done from a "seat-of-the-pants" perspective, not through the application of skills and knowledge obtained through a comprehensive training program. Although some training efforts are being carried out at the local level, there has yet to be a national recognition of the need to identify minimum competencies and develop baseline training standards for this type of response.

As opposed to many of the facilities and operations that police and fire departments interact with, transit systems possess unique characteristics that may often contradict traditional response measures.

- The presence of potentially live third-rail or overhead catenary, poses a real and present danger to initial responders.

- Alternative fuel and hybrid buses present response challenges and safety hazards to responders

- Initial tactics for transit incidents may need to consider maintaining system operation so that people can be moved quickly away from the scene and then evacuated or the "shelter in place" concept as opposed to immediate mass evacuation.

- The large number of potential victims and ambulatory passengers at the scene may present the most significant challenge of the incident. This could be further compounded by the location of the incident: either in a tunnel or on a bridge.

Unfortunately, these command decisions can only be made by police and fire officers who have a clear understanding of a transit systems infrastructure and operation.

Aviation incidents, which also possess unique challenges and hazards to responders are often mass fatality, not mass casualty incidents, and therefore are quickly categorized as a recovery, not a rescue operation. Response measures for aviation incidents however have been addressed in a variety of national regulations, promulgated by the Federal Aviation Administration and standards put forth by the National Fire Protection Administration. In comparison, transit incidents which, as statistically proven, can result in hundreds if not thousands of injuries, therefore demanding a faster, more coordinated rescue effort, have rarely been addressed through any national training effort.

Following the London attacks of July 7th, the International Association of Fire Chiefs (IAFC) issued a press release urging fire chiefs to review their response plans for transit emergencies. In the release the IAFC referenced the *Emergency Response to Terrorism Self-Study Course*, produced by the United States Fire Administration, as a noteworthy resource. Unfortunately, the current version of this course has only three, rather insignificant references to transit in the entire text, once again illustrating the lack of inclusion of transit in emergency preparedness training at the national level.

While, as DHS Secretary Chertoff observed, response to transit incidents is a local and state responsibility – because of the immediate need to triage and treat victims – the need to nationalize an effort to identify competencies and create standards for training still exists. Similar to what the FTA has done through NTI and other resources to serve the transit industry, a Federal agency, or agencies, needs to take on the responsibility to move this effort forward. Only when the dialogue on emergency responder preparedness and training for transit incidents is brought to the national level, will it become a priority for **all** transit systems and their respective response agencies.

In closing, the efforts put forth by the FTA have been some of the most effective and successful security prevention and incident response programs in any sector. These efforts need to continue not only in terms of developing new programs, but more importantly in the expanded delivery and implementation of existing materials and courses. Clearly, including transit employees as a key component of a system security program is a prudent measure that will present an invaluable return for a relatively minimal investment in initial and ongoing training. And while there have been, and continue to be, many effective, coordinated programs in emergency preparedness conducted at the local level, we as a nation, to paraphrase Robert Frost, have promises to keep and miles to go before we sleep.

I would like to thank the Subcommittee for the opportunity to share my insights and provide information on the current state of transit incident preparedness. I look forward to continuing to work with you and my colleagues to improve the safety and security of transit passengers and employees and the effectiveness of emergency responders in managing transit incidents.